



the CARRIER.....

Published Monthly by the Mount Diablo Amateur Radio Club

MDARC FIELD DAY CALL W6CX; 2M REPEATER WR6AHK; 220 REPEATER WR6ARG; MEMORIAL CALLSIGN W6LCW

Volume XXVI

~~AUGUST~~ July 1978

No. 7

PRESIDENT.....	WA6OJT Dick Webster 3415 Sweet Dr. Lafayette CA 94549	284-2046
VICE-PRESIDENT.....	WA6IRZ Stan Bringer 1920 Gilly Ln. Concord CA 94518	689-0989
SECRETARY.....	WB6FOA Salley Nikkel 778 Harvard Dr. Pleasant Hill CA 94523	
TREASURER.....	WA6TML John Clyde 94 Meadow View Rd. Orinda CA 94563	254-7384
EMERGENCY COORDINATOR..	W6LKE Dwayne Eskridge P.O. Box 5502 Walnut CR. 94596	932-3971
BOARD MEMBER '77 & '78.	WA6GBB Bob Muench 836 Santa Maria Way Lafayette CA 94549	284-5445
BOARD MEMBER '78 & '79.	W6PFW Ted Durst 9 San Ardo Ct. Walnut Creek CA 94598	937-1463

Committees: Education Ch. WA6MWU; Door Prize Ch. WB6TZQ; Membership Ch. WB6BIX; TVI Committee K6DQL, K6IMV, N6GQ, K6VLH; Repeater Grp. Ch. WB6PUA; Rptr. Grp. Treas. WB6DHH; Publicity Ch. WB6JGV; Novice Net WD6CGS. The CARRIER folders and stampers for July were Frank & Alma Calton, Fred Sabott, Hal & Mildred Mumford. Please mail, phone, or give all articles for the CARRIER to Managing Editor Hal Mumford W6CU, 1271 Walker Ave., Walnut Creek, CA 94596 phone 934-4728 by August 28 to get into the September CARRIER. I'll be out of town Aug. 31 - Sept. 4 inc. It is important that everything be in the hands of our printer Doug Lortsher W6KLM by the Monday preceding the second Friday of the month. The CARRIER can be quoted without asking permission.

* * * MEETING NOTICE * * *

OTHER HAPPENINGS

The regular monthly meeting of the
MT. DIABLO AMATEUR RADIO CLUB
will be held at our usual meeting place:

GRACE PRESBYTERIAN CHURCH
2100 Tice Valley Blvd., Walnut Creek
August 18, 1978 8 p.m.
"THE THIRD FRIDAY OF THE MONTH"

PROGRAM

An illustrated talk by
CHUCK WELCH WA6MWU
about
HIS RECENT TRIP TO JAPAN

VISITORS ARE WELCOME

PLEASE DO NOT SMOKE IN THE CHURCH BUILDING
PLEASE USE SQUARE FLOWERPOT TYPE RECEPTACLES
OUTSIDE THE BUILDING FOR CIGARETTE ASHES

- (1) August 20 - MDARC Picnic - Police Academy in Concord - Academy Rd. behind Clayton Valley H.S. which is on Alberta Way, Concord - 2 p.m. to 8 p.m. - Barbecue and Swimming Pool - Call WD6CGS for more details.
- (2) August 28 - Board Meets - Red Cross Bldg. 1300 Alberta Way, Concord - WB6FOA is hostess.
- (3) September 3 - Communications for Valley Spokesmen's Bike Ride. See WB6JGV
- (4) September 10 - Communications for Walnut Festival Parade. Call W6LKE.
- (5) Mid-September - Radio Classes will begin - College Park H. S. Contact WA6MWU to volunteer.
- (6) September 24 - Communications for Am. Cancer Soc. Walk-a-thon. See VE2AQV
- (7) MDARC Novice Net - Inactive until radio classes start but refer to clipping taken from ARRL's "NEW HAM NEWS" and reproduced on page 2 of this CARRIER.
- (8) October 20 - MDARC Auction

M.D.A.R.C. MEETING July 21, 1978

Club was called to order at 8:10 p.m. by President Dick Webster, WA6OJT.

Many visitors were present and introduced themselves. A number of amateurs announced they had upgraded.

In the absence of John WA6TML, Dick Webster reported the following: \$1,162.61 in checking and \$630.57 in savings.

Membership chairman Harry, WB6BIX reported a membership of 290.

Charles Marshall, W6PNO, was called away due to an emergency and left the following information with the President - "Be a hero to your Community, your friends, and your family. If you have any information about a FIRE - PAST, PRESENT or to come, give us a call. You don't have to leave your name or even be sure of the facts. Give us a break. Give us a clue, give us a call. Our town needs more heroes. Phone 548-6077 even if you see a suspicious person in a car loitering." NOTE: YOU MAY CALL THE HIGHWAY EMERGENCY NUMBER TOO - (415) 228-8282.

Jim Presley WD6CGS, reported 2800 contacts Field Day on top of Mt. Diablo. 711 contacts were made in the first three hours. Carl Cook made 613 contacts in 24 hours.

Doug Lortsher W6KLM, our new CARRIER printer was introduced.

We are sorry to learn that Don Maroney, WA6TAS, will be leaving our area going to Colorado. We wish you the very best and will meet you on the bands, Don.

The meeting adjourned at eight-thirty for coffee.

Stan Bringer, WA6IRZ, introduced our speaker Tom Lott VE2AGF. Tom spoke on Narrow Band Speech Compression System. Very interesting and informative.

Respectfully submitted,

Salley Nikkel (WB6FOA)
Secretary.

- o o o o -

M.D.A.R.C. BOARD MEETING JULY 31, 1978

Board meeting at the QTH of Jim Presley, WD6CGS.

The meeting opened at 8:10 p.m. with Dick Webster WA6OJT presiding.

The following Board Members were present: WA6IRZ, WB6FOA, WA6TML, W6LKE, W6PFW; and the following faithful Club Members were present: WA6JUD, K6IMV, W6CU, WD6CGS, WD6APL, and N6GQ. Also present were two visitors from Fresno - cousins of the Secretary, WB6FOA. They were Robert Archer (WD6GVA), and YL Corene Archer.

The minutes as printed in the CARRIER were accepted.

Treasurer's Report: \$917.19 in checking &

\$644.55 in savings. Report accepted.

Correspondence read and accepted.

Vice President Stan announced that Chuck Welch, WA6MVU will be the speaker next Club Meeting. Chuck will talk and show pictures of his recent trip to Japan.

Motion made and carried to pay Stan for the expences for last month's speaker.

Secretary instructed to write letter of thanks to Betty WA6GCS & Robert WA6FKU Smothers for donation to Club.

The application for radio classes has been placed with the College Park High School.

Stan reported 291 members in Club. All new applications were accepted for membership.

Jim, WD6CGS announced the picnic at Police Academy Aug. 20th 2 p.m. to 8 p.m.

Next Board Meeting will be August 28 at the Red Cross Building. WB6FOA is Hostess.

There being no further business, the meeting adjourned.

Thank you to Jim Presley and his wonderful mom, Mrs. Presley for the fine refreshments.

Respectfully submitted,

Salley Nikkel, WB6FOA
Secretary

- o o o o -

The following is taken from NEW HAM NEWS A quarterly publication of the ARRL Club and Training Department. Fall 1977.

A Unique Novice Net

Bill Baucum, WA6YWS, is the net manager of a very interesting Novice net in California. The net, which meets at 3730 KHz, at 9:30 am local time Saturdays, provides net training for all new amateurs.

Each station that checks in must bring a "drill message," which is a piece of traffic which can be sent to any member of the net. The net control station (NCS) pairs off the checkins, and sends them off frequency to exchange messages. Thus every time you check in, you get to send and receive at least one message! Of course, regular messages take priority over the drills, but you can't beat this procedure for getting lots of traffic practice in a hurry!

Interested in starting a similar net in your area? Contact WA6YWS for more information on his net, and write ARRL for general information on traffic handling and net procedures.

Now Available

The 1977 ARRL Net Directory is now available without charge from the ARRL Hq. The Directory lists nets by name, frequency and state, and includes such valuable operating aids as the QN signals, numbered radiograms, NTS routing guide and a separate listing of Novice Band Nets. Send a large self-addressed, stamped envelope with 24¢ postage for your copy today.

The President's Corner

August is the month for our picnic. The details are here in the CARRIER. Be sure to come and bring your friends. I hope to see you there.

August is also the month we begin gearing up for busy September. A few examples:

1) 2-meter communications for the Valley Spokesmen's 100 mile bike ride on September 3. Contact WB6JGV to volunteer.

2) 2-meter communications for the Walnut Festival Parade on Sept. 10. Contact W6LKE.

3) 2-meter communications for the American Cancer Society walk-a-thon Sept. 24. Contact VE2AUV to volunteer.

4) Our education committee is being reactivated for a new school year under the direction of WA6MWU. The committee will have its organizational meeting on Aug. 22 at 8 p.m. at Chuck's house. We will be looking for instructors, etc. Contact Chuck to volunteer. Our amateur radio classes will be Tuesday nights beginning September.

5) The CARRIER is now being printed at Doug Lortsher's house in Lafayette. We need volunteers to help Fred Sabott and Doug do the printing, and stapling. Five or six helpers are needed but only about three will have to work each month. Contact WA6QJT or W6CU.

6) I will be appointing a nominating committee this month to nominate officers for next year. Contact me to volunteer.

7) Our next club auction will be on Oct. 20. Our auction committee will be meeting soon to work out details. Contact me to volunteer for the committee.

With all this going on, it's a good thing we have 291 members to share the work load. If you're not already doing something, try volunteering for something and find out how much fun the Club can be.

73 Dick Webster WA6QJT

- o o o o -

CONDENSED PRESS RELEASE FROM S. ALBERT VOLKOFF

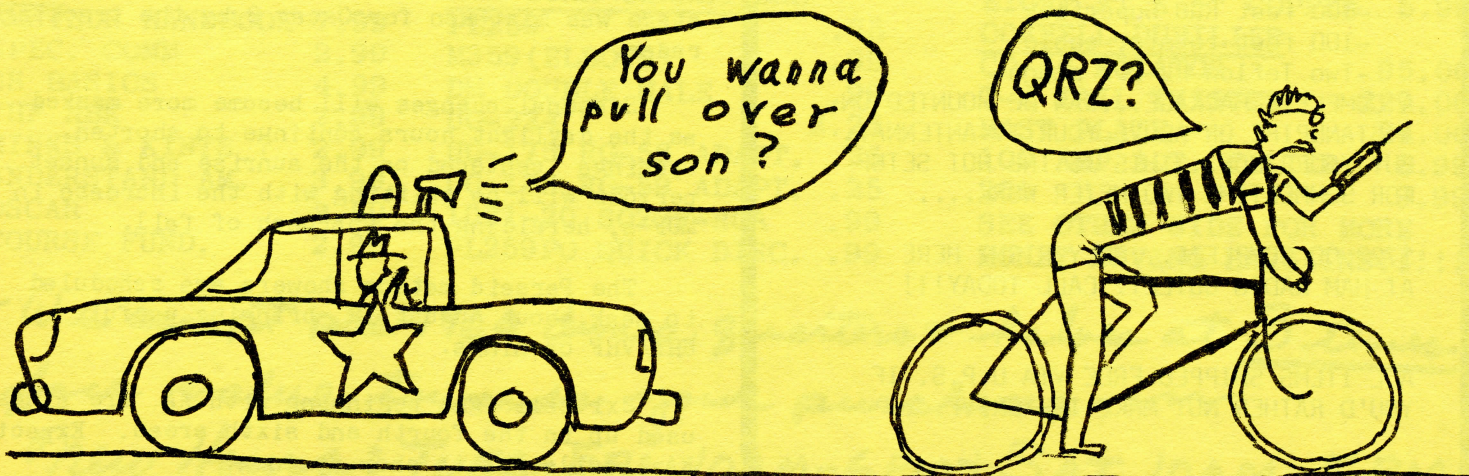
Commencing on June 30, many Radio Amateurs in the Bay Area heard signals on 14.732 MHz from a station using the callsign "W6GSM/MW" on the sailing vessel "Summer Breeze" enroute to Honolulu. They became suspicious because of operating characteristics, and notified the S.F. District office of the FCC. The operator "TIM" was requesting phone patches to his place of business and the callsign W6GSM is not in the latest callbook.

The Honolulu District office was contacted. Mr. Melvin Vittum, Eng. in Charge there, contacted the owner of the vessel who verified that a crew member by the name of "TIM" had brought an amateur radio xmtr on board the vessel before departing from S.F. The owner stated that he was unaware that the station was being operated illegally and was cooperative in providing the full name and address of "TIM", whose name was Timothy Joseph Wenger.

On July 20, 1978 Asst. Eng. in Charge Philip M. Kane and Investigative Specialist David Doon, both of the S.F. District office, called on Mr. Wenger in Santa Clara and advised him of the consequences of such operation. Mr. Wenger stated that he had read about the use of amateur radio transmitters in a popular yachting magazine. He was unaware of the criminal penalties involved - \$10,000 fine and/or one year imprisonment for the first offense. Based upon Mr. Wenger's cooperative attitude and lack of previous history of rule violations, no recommendation will be made toward criminal prosecution.

Once again, the Amateur Radio community demonstrated its desire to maintain the integrity of the Amateur Radio Service. If the Amateur Radio Service is to maintain its excellent standards of performance, it is vital that all users of this portion of the radio spectrum operate legally.

- o o o o -



(Thanks WA6KGI)

OUR CLUB CALL W6CX GETS A NEW LEASE ON LIFE

Our Club License W6CX (along with that of W6CU, the Trustee) now has a new expiration date. It's August 1, 1983. The license is in a frame hanging on the wall at W6CU's QTH.

CONGRATULATIONS

Joe Rudi WA6PVA has upgraded to Advanced.
John Keibel WA6SWO is now General.
Len Bastian who was WA6ZGG is now KB6CL.
George Roush WB6OFH has upgraded to Tech.
Also, congratulations to upgraded members that the CARRIER staff does not know about.

- o o o o -

Ham Radio Outlet

**999 Howard Avenue
Burlingame, CA 94010**

(415) 342-5757

Hours: 10 AM to 5:30 PM Monday—Saturday

OUR ONLY BUSINESS IS HAM RADIO!!!
and remember...

HAM RADIO OUTLET IS NORTHERN CALIFORNIA'S
ONLY AUTHORIZED KENWOOD DEALER!

SUPER KENWOOD SPECIALS FROM HAM
RADIO OUTLET....JUST FOR YOU!

- 1) TS-820S and VFO-820.....\$1098.00
- 2) TS-520S and HyGain 18AVT..\$739.00
- 3) TR-7400A and Astron 12A...\$399.00
- 4) The SUPER VHF SPECIAL:

-TS700SP all mode 2m...\$729.00
AND GET THE FOLLOWING FREE---

- A147-11 Cushcraft 11 elements
- Alliance U-100 rotator
- 5 foot steel mast
- 100 feet RG8 Superflex
- 100 feet rotator cable
- Two Teflon PL-259 plugs

A COMPLETE PACKAGE...CAN BE MOUNTED ON
A STANDPIPE OR ABOVE YOUR TV ANTENNA..
BUY YOURS NOW...THIS IS THE HOT SETUP
FOR SUMMERTIME TWO METER WORK....

\$729.00 COMPLETE...ONLY RIGHT HERE
AT HAM RADIO OUTLET. CALL TODAY!!!

ALL ITEMS SHIPPED FREE VIA U.P.S. IF
YOU'D RATHER NOT MAKE THE DRIVE....

SOME CONDENSED AND REWORDED HR REPORTS

Some intense solar flares that maybe were the most intense ever observed began July 9. All short-wave communications were knocked out for about 20 to 30 minutes starting about 1815 UTC. The lead off flare had a magnetude of "X3". The next day there was a flare with a magnitude of "X8". On July 11 at 1043 UTC there was a flare that had a record-setting magnitude of "X15". Radiation from such flares affects radio communications in three ways. The first (in time) is electromagnetic radiation which arrives from the sun about 8 minutes after the flare erupts. Included are ultra-violet and X-rays, which can produce shortwave fadeout and RF noise. Typically, an hour or two later there are cosmic ray particles. Finally, 24 to 72 hours after the flare, magnetic particles arrive at the Earth, causing ionospheric and magnetic storms and aurora displays. One side effect of all this is propagational goodies on all bands, HF through UHF. Other flare-related upsets are expected.

Response to the eighth notice of inquiry on WARC 79 was the heaviest yet. In a quick review of the 400 or so Amateur submissions perhaps 95% were concerned with potential Amateur losses at 160 and 80 meters and changing 40 to exclusive Amateur use. It appears the Amateur Service is doing pretty well with our own government. It's elsewhere that we're in for a tough fight.

CB rules violators and "HF" outlaws are losing not only their CB licenses but their right to upgrade (legitimately) to an Amateur license. Amateur Radio training course instructors would do well to warn their students of the risks of illegal operation.

A new ARRL License Manual is planned to be more closely patterned after FCC exams.

The reason Oscar 8's orbit times were late is that Oscar 8's Delta launch vehicle's first stage was mistaken for Oscar 8 by the tracking radar.

Seasonal changes will become more marked as the daylight hours continue to shorten. Openings centered on the sunrise and sunset periods will be shifting with the increase in MUF's, heralding the approach of fall.

The Perseid meteor showers are scheduled to peak about August 12, bringing useful UHF/VHF openings.

2x1 callsigns beginning with AA are almost used up in the fourth and sixth areas. Expect KAx1 callsigns to show up soon.

M ^{Super} T R O N _{Sale}

Devoted Exclusively To Amateur Radio

2811 Telegraph Ave Oakland Ca. 94609 (415) 763-6262

~~no more list prices~~

Everything reduced to save you money -
cash ^{via} New Equipment and accessories ~~BSC~~ ^{M/C}

AMELCO

SWR METERS 12.95

LIGHTER PLUGS 2.99

MIC PLUGS 1/2 OFF

AMECO

TAPES, CODE 3.99

OCMW-2 CODE OSC 11.99

ALL BOOKS REDUCED:

102-01 3.99

14-01 .59

16-01 .69

6-01 .69

5-01 1.10

17-01 .75

11-01 1.50

NP-1 4.99

ANTENNA SPECIALISTS

HM4 RUBBER DUCK 5.99

HM5 " " 5.99

HM-226 " " 12.50

HM228 " " 8.00

M3B 10M WHIP 6.99

M206 MOB BRACKET 7.99

PB-4 RUBBER DUCK 5.99

ARRL

AMATEUR HANDBOOK 7.99

SPEC. COMM 2.99

SS BASICS 4.99

VHF HBK 2.99

HINKS & KINTS ? 2.99

UNDERSTAND AM. 3.99

OSCAR 2.50

COURSE FUND. 2.99

ARRL

OPR GUIDE 2.99

IC HBK 1.99

DATA BOOK 2.99

LICENSE MAN. 2.50

SS DESIGN 5.99

RADIOGRAMS .60

LOGS (LARGE) 1.50

RADIO FREQ. INTER. 2.50

TUNE IN THE WORLD 5.99

MINILOGS .60

LCF CALCULATORS 2.25

CODE KIT 5.99

ATLAS RADIO

MT-1 MATCH XFMR 24.00

DCC DC CORD 9.99

220CS PWR SUPPLY 129.00

350XL/DDXL VR 1199.00

350PS PWR SUPPLY 189.00

DCC-XL 9.99

DL-200 DUMMY LOAD 11.99

MBK MOB. BKT 4.99

210X SSB TCVR 649.00

DMK-XL 55.00

AVA COAX CONNECTORS

PL259 .75

M359 (ELBOWS) .99

DM DOUBLE MALE .99

UG-224 2.25

UG-175 RG-58 ADAPT. .25

UG-176 RG-59 ADAPT. .25

1021-20 SO239-RCA .99

PL259PO QUICK DISC. .99

AVA COAX CONNECTORS

PL258 DOUBLE FEMALE .99

UG273 1.10

RG-14 CABLE END "N" 2.50

BENCHER

BY-1 KEYS PADDLE 33.95

BY-2 " " CHROME 42.50

BARKER & WILLIAMSON

595 COAX SWITCH 15.99

375 " " 15.99

376 " " 15.99

592 " " 13.50

AT-200 2 METER TUNER 16.95

374 DELUXE DL WATT. 185.00

DP-2 SWITCH PLATE 1.50

CALLBOOKS

US 11.99

DX 11.50

MAP LIBRARY 2.99

DX GUIDE 1.99

ZONE MAP OF WORLD .99

GREAT CIRCLE MAP .99

MAP N. AMERICA .99

CALPICO GROUND RODS

EIGHT FT X 1/2" COPPER 5.99

CORNELL-DUBILIER

CD-44 ROTATOR 95.00

T-X TAIL TWISTER 229.00

MAST PLATE 24.00

100 AMP ALT. FILTER 6.99

200 " " " 9.99

SEE OTHER SIDE FOR MORE

MONEY SAVING BARGAINS!!!!

We accept pre-1964 dimes, quarters & halves at 3 times
face value towards your purchases

New Hours: TUES-FRI 10AM-6PM + SAT. 10AM-5PM

Closed: Sun & Mon. 73, DOUG-W6HVN Aug '78

M-T-RON Super Sale

all prices reduced - Come in & Save
lots more not listed

COLOMBIA COAX CABLE	ELECTROSPACE	KLM
RG-58A/U SUPERFLEX .10/FT	2000C COMBINER 199.00	PA10-40B 2M AMPL 69.99
RG-8A SUPERFLEX .20/FT	OMEGA-T	PA10-70CL 450 AMPL 199.99
8 COND. ROTOR CABLE.12/FT	TE7-01 NOISE BR. 29.00	LARSEN
18" RG58 JUMPERS 1.99	FRANKLIN 24HR CLOCKS	5/8 MAG MOUNT 2M 32.00
12' RG58 " 3.29	8" ROUND 13.99	5/8 HOLE " 2M 24.99
3' RG8 " 2.99	12" ROUND 15.99	MAGNADYNE
CLIFFORD POWER SUPPLIES	GILFER	TOPS SLIDE MOUNT EA. .50
XR 10AMP REG. 49.99	WORLD RADIO HBK 9.99	MEJ
XXXR 25AMP REG. 119.00	GOLDLINE	12VDC POWER SUPPLY 19.99
COWAN BOOKS	1 KW DUMMY LOAD 19.99	NEWTRONICS
RTTY A-Z 3.99	HAMCO CW PADDLES	4BTX 10-40 VERT 75.00
ANT. ROUNDUP 2.50	SCOTIA 45.00	RM-80S 80M MOB COIL 19.99
CURTIS ELEC. KEYERS	CARSON 59.00	RM-75S 75M " " 19.99
IK-440A INSTRUCT 199.	HAM RADIO	RM-75 " " " 10.99
EK-430 105.	SSB HANDBOOK 3.50	MO-1 MAST 17.99
8043 CHIP 12.50	2ND CP 2.50	GCM-1 GUTTER MOUNT 4.99
8043-3 CHIP/BOARD 20.99	HY-GAIN ANTENNAS	NPC POWER SUPPLIES DC
8043-4 KIT W/PARTS 44.99	105BA 5EL 10M 89.00	104R 6AMP 29.00
CUSHCRAFT	TH6DXX 6EL TRI 215.00	108RA 12AMP 49.00
ARX-2 RINGO 29.00	TH3MKIII 3EL TRI 169.00	109RA 20AMP 65.00
ARX-220 " 29.00	204BA 4EL 20M 159.00	109RM 20AMP W/METER 75.00
AR-220 24.00	TH2MKIII 2EL TRI 118.00	NYE
A449VPK 24.00	153BA 3EL 15M 65.00	PHONE PATCH 29.00
A432-20T 45.00	DB10-15A 3EL 1015 125.00	PIPO PP2K 16 BUTTON
A144-20T 55.00	14AVQ 10-40 VERT 57.00	TOUCH TONE PAD/OSC. 55.00
A144-10T 33.00	18AVT 10-80 VERT 79.99	RF ENGINEERING
A-14TMB 14.99	3FT MOBILE MAST 13.99	DIGITAL DISPL. R4C 139.00
DENTRON	5FT " " 15.99	SUPEREX
DA DOUBLET ANT. 21.00	GUTTER CLIPS 1.99	APS-II DELUXE PHONES 24.99
MT-2000 169.00	QUICK DISCONNECT 5.99	COM-11 14.99
MLA-1200 AMPL. 339.00	HD LIGHTNING ARR. 33.00	BOOM MICS MFB3 15.99
AC-1200 AC PS 135.00	BNC RUBBER DUCK 6.99	TELCO FREQUENCY COUNTERS
160-10A ANT TUN 110.00	PL259 RUBBER DUCK 4.99	COUNT 500 TO 500MHZ 119.00
DIGITAL CONCEPTS	3806 CRYSTALS EA 4.50	COUNT 40 TO 40MHZ 89.00
24 HOUR DIGITAL CLOCKS	ICOM	TEN-TEC
19.95	RM-2 REMOTE PROG. 159.00	509 ARGONAUT 310.00
DRAKE	IC-211 649.00	570 CENTURY 21 255.00
UV-3 144 FM 499.00	IC-701 DISP. UNIT W/PS	276 CALIB. 24.99
PS-3 AC PS 75.00	(ONE ONLY) 1299.00	1170 CIRC. BKR 7.99
TR4CW W/RIT TCV 629.00	IC3PE PS(22S/245) 65.00	208 25.99
MS4 SPKR 28.00	K.E. ELECTRONIC KEYERS	KR1A KEYS 29.99
MN-7 ANT TUNER 145.00	SQ AUTO W/O KEY 39.00	KR-2A KEYS PADDLE 14.99
MN-2000 ANT TUNR 215.00	T-7 40M TRAPS 18.50	252M AC PS 20AMP REG 109.00
TV-42LP LP FIL. 11.99	UB80-40 TRAP DOUB. 34.99	TRI-EX 5FT MASTS 2" 19.99
TV-300HP HI PASS 7.99	CW-70 70FT WIRE 2.99	TURNER PLUS 2 MIC 24.99
34PNB NOISE BLR 85.00	UB-1 1:1 2KW BAL 10.99	WILSON WR-1000 ROTATOR
6JBG FINALS 9.00/PR	UB-4 4:1 2KW BAL 10.99	w/100FT CABLE 329.00
DX ENGINEERING	KLM	USED:
RF SPEECH PROCESSOR	144-148-16C 65.00	COLLINS KWM-2 w/PM2 599.99
FOR DRAKE TR4C 99.00	144.148-11EL 2M 39.99	TEKTRONIX 545 W/CA 399.00
ELECTROSPACE	420-470-2 MAT TRA 19.99	SIGNAL-ONE CX-7B W/CW FILTER
HV-3 VERTICAL 119.00	7.0-7.3-1 40M DIP 59.00	SPARE NEW TUBE, K6BE MODS
160M COIL 29.00	PA2-25B 2M AMPL 59.99	CLEAN EXC. COND. 995.00
*****		*****
ALL ITEMS ARE CASH AND CARRY - LIMITED TO STOCK ON HAND ONLY *****		
PRICE AND AVAILABILITY OF ALL ITEMS SUBJECT TO CHANGE WITHOUT NOTICE-THANK YOU!		

OUR FIELD DAY REPORT

By W6CU

After the Field Day logs were collected from the band captains (or their representatives) by the "double check" committee, all QSO's were rechecked by writing down each call sign (and there were 2871 of them) into appropriate columns in order to find out whether there were duplicates and other discrepancies. We (W6CU & K6IMV) found that the loggers had missed 60 duplicates, that six of the 35 W6CX/6 operators had gone ahead and made 10 contacts with W6CX/6 from their own rigs, and that there was one CW contact mixed in with phone contacts in a way that violated the "15-minute" rule. So when we cross off 60 plus 10 plus 1 contacts from 2871, we get exactly 2800 valid contacts. There was a maximum of 7 stations in simultaneous operation besides a NOVICE station using Dana Myers's call WA6ZGB. All rigs used less than 200 watts.

On July 24 (the deadline) our Field Day report was mailed to ARRL. The requested information was (a) the official summary on the form they sent us (b) a list of all stations worked on each band (c) proof of publicity (which was a clipping from the July 5th Oakland Tribune that included a picture featuring Steven Muench and Bob Bruder) and (d) a copy of our Field Day message. Besides that we sent ARRL the 8" by 10" original photograph of Steve and Bob which was taken by George Roush WB6OFH. We are lucky to have George as a member of our Club. See his ad (Circle "R" Photographic Studio) on yellow page 676 of the latest telephone directory. The Club Secretary WB6FOA has about twenty 8" by 10" Field Day pictures on file that were taken by him. Order yours now for \$1.25 each. Except for the photograph, we sent the Central Calif. Radio Council copies of what we sent ARRL.

We have already received and answered QSL cards from WA6WDL, WA6PFV, KH6EQM, and VK2BHS (which was sent directly to us by airmail). Perhaps we will be exchanging QSL cards with more stations later. Of course most of our contacts were with all areas of Canada and the United States, including Hawaii and Alaska. However, incidental to the operation, radio amateurs in Guam, New Zealand, Australia, Tahiti, Japan, Western Samoa, French Polynesia, Guantanamo Bay, Marshall Islands, Cuba, Virgin Islands, England, and South Africa were contacted also and count as valid QSO's.

One of our 2 meter contacts was with a station in or near RENO. Our 2 meter signals from Mt. Diablo, using a maximum power of 80 watts, were so strong that a guy accused us of using a KW. QRM on the hill was so terrific that it sounded like many people in the valley were using KW rigs too.

Our band captains and/or number one helpers were WA6OCZ & WA6AEO for 80 meters, WD6CGS & WB6EKT for 40 meters, WA6JUD (who was Field Day

Chairman) for 20 meters, WA6ZFX and WA6WGB for 15 meters, WB6TZQ for 10 meters, WA6NTG & WB6KWW for 2 meters, WB6QAP for 220/440/6 mtrs. and WA6ZGB for the NOVICE station.

Contacts by bands (knocked down a little by Perky from what was previously announced) were:

Band	Phone	CW	Total
440	23	0	23*
220	60	0	60*
2 M	536	2	538*
6 M	14	0	14
10 M	172	0	172
15 M	426	24	450*
20 M	481	123	604*
40 M	400	211	611*
80 M	257	37	294
NOVICE	0	34	34
	2369	431	2800*

* A record for W6CX/6

Contacts by Operators

#	Operator	Call	Phone	CW	Total
1	Carl Cook	WA6JUD	490	123	613
2	Jim Presley	WD6CGS	308	125	433
3	Hank Rohlf	WA6WGB	269	7	276
4	Linda Lange	WA6NTG	198	0	198
5	Hank Beisheim	WB6TZQ	154	0	154
6	Ray Montagne	WB6DHN	140	0	140
7	John Relf	WB6QAP	92	9	101
8	Pete Danzig	WA6WVH	45	54	99
9	George Dye	WA6LPR	92	0	92
10	Henry Herting	W6AMH	79	0	79
11	Louis Brydon	WA6OCZ	67	1	68
12	Chuck Garner	WA6GGF	43	23	66
13	Virginia Leppard	WA6ZGJ	64	0	64
14	Jim Davis	WB6BBC	3	32	35
15	Ute Wingerath	WA6TEF	34	0	34
16	Terry Lange	WA6NTG	31	0	31
17	Brad Watson	WA6AEO	30	0	30
18	Steve Muench	WA6GYA	28	0	28
19	Bill Leppard	WB6NMU	25	0	25
20	Arie Grossman	WA6QCZ	24	0	24
21	Jim Stubstad	WB6FMA	24	0	24
22	Kyle Chapman	WA6OCC	23	0	23
23	Jim Hagan	WA6NTI	0	23	23
24	Russ Wood	KA6BPN	22	0	22
25	Paul Martz	WB6SNW	22	0	22
26	John Keibel	WA6SWO	7	14	21
27	Dana Myers	WA6ZGB	8	9	17
28	Paul Parker	WB6DHH	17	0	14
29	Steve Overacker	WA6HAM	14	0	14
30	Pete Sutherland	WD6DKW	0	11	11
31	Mark Gregory	WA6OVL	5	0	5
32	Bob Bruder	WA6ZFX	4	0	4
33	Mark Peal		4	0	4
34	Mak King	WB6EKT	2	0	2
35	Art Mayoff	VE2AQV	1	0	1
TOTAL			2369	431	2800

Some of the bands had very neat logs. We hope that we interpreted all hieroglyphics correctly. The Field Day Master Log will be available for inspection again at our August meeting, after which it will go to WA6JUD for permanent filing.

SOME SATELLITE EQUATIONS

(Gleaned and derived by W6CU from equations in issues of the AMSAT Newsletter, some of which had to be corrected)

If you live north of the equator and have a scientific calculator or computer, you might like to find the momentary location of your favorite satellite by using these equations instead of using charts (which are easier).

$$F = \frac{360T}{P}$$

$$\phi_a = \arcsin(\sin i \sin F)$$

$$Y_a = Y_x + \arccos\left(\frac{\cos F}{\cos \phi_a}\right) + \frac{T}{4}$$

Subtract 360 to get Y_s if the above calculation results in a value greater than 360

$$V = Y_a - Y_q$$

$$C = \arccos(\sin \phi_s \sin \phi_q + \cos \phi_s \cos \phi_q \cos V)$$

$$h = 205.82(P)^{2/3} - 3963$$

$$G = 3963 + h; N = \frac{3963}{G}$$

$$E = \arctan\left(\frac{\cos C - N}{\sin C}\right)$$

$$B = \arccos\left(\frac{\sin \phi_s - \sin \phi_q \cos C}{\cos \phi_q \sin C}\right)$$

$$A = B \text{ if } V \text{ is minus; } 360 - B \text{ if } V \text{ is plus}$$

$$d = G \left(\frac{\sin C}{\cos E}\right)$$

$$M = C \times 69.1674 \left(\frac{2\pi R}{360}\right) \arccos N$$

$F, V, G, N,$ and B are mathematical aids to simplify equations.

T = Elapsed minutes since the satellite crossed the equator going north.

P = Period. The time in minutes for the satellite to go around the earth once.

ϕ_s = Latitude of satellite.

ϕ_q = Latitude of your QTH

i = Inclination angle. This angle is between the equator as it extends east, and the satellite path which goes northward after crossing the equator.

Y_s = West Longitude of satellite. Y_q = W. Longitude of your QTH. Y_x = W. Longitude of the point satellite crossed the equator, going north on a specific orbit.

SSP = Sub-satellite point. The moving spot on the surface of the earth exactly under the satellite.

C = Great Circle distance, expressed in degrees, between your QTH and the SSP.

h = Height of satellite above the earth's surface, assumed to be constant. (miles)

R = 3963 = Radius of the earth in miles.

E = Elevation angle, relative to your QTH and the satellite.

A = Azimuth. Angle in clockwise direction between line to North Pole from your QTH and line to SSP from your QTH.

d = slant distance to satellite in miles from your QTH.

M = Miles along earth's surface between your QTH and SSP.

69.1674 = statute miles per degree.

Map Range = Maximum distance on map that satellite can be heard from your QTH.

Here is an example showing the kind of figures that can be calculated using those equations. Suppose you live along Willow Pass Road near Concord, Calif. at 38° North Latitude (ϕ_q) and 122° West Longitude (Y_q). A satellite that has a period of 115 minutes (P) and an inclination angle of 101.7° (i) crosses the equator on a certain day going northward at 274° West Longitude (Y_x) - a point in the Indian Ocean which corresponds to 86° East Longitude. What direction would you point your beam (what is A and E ?) for the best reception of the satellite's signals 46 minutes after that equatorial crossing?

The answer: A is 90.53° and E is 19.93°. Also, d is 1781.35 miles and M is 1792.02 miles. For this satellite, h is 904.28 miles and the map range is 2454.78 miles. It so happens that the position of Oscar 7 would be east of Concord approximately like that at 1507 UTC (8:07 a.m. PDST) Friday August 18, 1978.

Of course these answers are not exactly the same as actuality because: (a) published predicted satellite crossings have not been that accurate (b) we have assumed in our equations that the earth is a perfect sphere (c) the height of the satellite varies a little (d) etc. The answers have been carried out here to two decimal places in case you want to check the math.

We have calculated this using one specific time for one specific longitude of an equatorial crossing of this satellite. A computer printout for all the many minutes when a particular satellite can be heard from your QTH is available from Bill Johnston N5KR, 1808 Pomona Drive, Las Cruces, NM 88001 for \$4.00. Be sure to send him the data on your location (the town is good enough if over 10,000 population - otherwise your Lat. and Long.), and the name of your favorite satellite (Oscar 7 or Oscar 8).

If you are not interested in the actual figures to the nearest minute or degree, read about the OSCARLOCATOR on page 72 of August 1978 QST. Or you can get the SATELLABE III from Ham Radio and modify it for Oscar 8 as described in the March 1978 issue of the AMSAT Newsletter. Best yet, to keep up-to-date on satellites, become a member of AMSAT (Radio Amateur Satellite Corporation) for \$10 per calendar year (life membership \$100) and get their quarterly AMSAT Newsletter. Write AMSAT P.O. Box 27, Washington, D.C. 20044 for an application blank. Longitudes of equatorial crossings and times for all orbits of the day can be calculated from reference orbits found in QST. A long term prediction of such orbits can be obtained from W6PAJ but his Oscar 8 predictions are slightly off. Write Skip Reymann W6PAJ, P.O. Box 374 San Dimas, CA 91773.

- By Hal Mumford W6CU, Editor

For Sale - SB 102 Transceiver 80 to 10 meters, with speaker, microphone, and power supply and extra 6146 tubes. All for \$275.00
Also: SB 650 Frequency Display and all cables \$80. Both for \$375.00

Also: 80-40-20 inverted VEE's with coax.



\$30.00

- Bruce Pincus WB6KNU 935-0510

— . . . —

For Sale - HW 100 SSB Transceiver with Power Supply and Speaker \$275.00

DX 60B Transmitter with new 6146 B finals \$40.00
HG 10B VFO \$40.00
DX 20 Transmitter \$25.00
HG 1 VFO \$25.00
GR 54 All Purpose Receiver \$20.00
Manuals for all

- Ernie Williston WA6JFK 933-7298

— . . . —

For Sale - All new FM - 2015R 2 meter transceiver \$380 plus tax.

- DLK Enterprises
P.O. Box 3126 Walnut Creek, CA 94598
Home Phone 825-1774

— . . . —

QST Subscriptions & Renewals \$12.00

WORLD RADIO Subscriptions \$6.50

Make check out to the Club. Give or mail to our treasurer John Clyde 94 Meadow View Rd., Orinda, CA 94563.

— . . . —

Nametags \$2.00

Make check out to the Club and give or mail to Harry Howe, 5 Las Vegas Road, Orinda, CA 94563.

— . . . —

For Sale: HW 202 2 meter transceiver with AHK and other crystals. Excellent condition. \$125

- Harry Cameron W6RVC 934-6062

— . . . —

For Sale: Now that I've sold my extra January 1931 copy of QST, here's another extra copy of QST for sale. It's a December 1928 copy of QST with a detached and somewhat torn (but complete) front cover. \$5.00

If there is no sale this month, and there is space in this column next month, the price comes down some. - W6CU 934-4728

— . . . —

Wanted: Reporters, proofreaders, printer's helpers, cartoonists, writers, society columnist, biographers for the CARRIER
- W6CU 934-4728

The Base Station

ALDA 103 80-20 XCVR	495.00
Atlas 350 XL Digital	1424.00
Yaesu FT101 F (The New One)	799.00
Yaesu FT101EX	699.00
Yaesu FT101EE	759.00
Yaesu FRG 7 Reg. 370.00	349.95
Yaesu FRG 7000 Digital Receiver	
Reg. 655.00 Introductory Price	629.00
Yaesu FT227R Reg. 349.00	Cash 331.55
Kenwood TS 820	Cash 873.95
Kenwood R599D T599D	Cash 521.55
Kenwood TS700 S Reg. 729.00	Cash 649.95
Dentron 10-160 Linear Reg. 895.00	
	Cash 789.95
Dentron MT 3000 Reg. 350	Cash 315.00
Dentron Jr. Monitor	79.50
KLM 10 in 70 out Linear 2 m	149.95
KLM 10 in 140 out Linear 2 m	
Reg. 216	Cash 194.35
12 V 4A Reg. P/S Reg. 40	Sale 29.95
12 V 12A Reg. P/S Reg. 80	Sale 66.00
12 V 25A Reg. P/S Reg. 150	Sale 119.95
Hustler 6 DB 2 m Colinear	25.50
Cushcraft ARX 2 Ringo	36.95
Cushcraft ARX 220 Ringo	36.95
Cushcraft 2 m 4 el	22.95
Cushcraft 2 m 11 el	34.95
Cushcraft 220 7 el	23.95
Mosley TA33 3 el Tribander	206.00
Mosley TA33 Jr. 3 el Tribander	144.95
HyGain TH3MK3 3 el Tribander	199.95
HyGain TH3Jr. 3 el Tribander	144.95
HyGain 2 el Triband Quad	219.95
HyGain 14AVQ 4 band vert.	67.00
HyGain 18AVT 5 band vert.	97.00
Hustler 4BTV 4 band vert. Reg. 99	85.00
PSI Frequency Counter to 500 MHz	149.95
CLEAN USED GEAR	
Drake T4XC W/PS & MS4 SPKR	595.00
Drake 2 NT Novice Transmitter	99.00
Drake FS-4 "C" Line Synthesizer	199.95
Dentron 160-10 Super Tuner	99.95
Gonset GSB101 KW Linear	295.00

CONTRA COSTA'S HAM RADIO HEADQUARTERS
SERVING ALL OF NORTHERN CALIFORNIA
WITH SAME DAY UPS SHIPMENTS

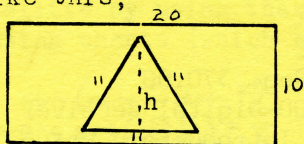
The Base Station

2101 Pacheco St. Concord, CA 94520

(415) 685-7388

LAST MONTH'S PROBLEM

With a rectangular yard of sides A and B adjacent, area 200 ft., and perimeter 60 ft. given, solving the quadratic gives us A equals 20 ft. and B equals 10 ft. Placing the tower in the yard like this,



the question is will h be less than 10 ft? With a little help of the Pythagorean Theorem and knowing that half of 11 is 5.5

$$\sqrt{11^2 - 5.5^2} = h \quad h = 9.5262 \text{ ft.}$$

which indicates that the tower will fit with a little less than 6 inches to spare.

- WA6KGI

THIS MONTH'S PROBLEM

If I sit at the top of a tower that is 624 feet from level ground, the elevation angle relative to the ham shack and where I am sitting is 53 degrees.

If I run a coax from the ham shack along the ground and up to the top of the tower, how much coax will I need?

- WA6KGI

Excerpt from a letter from WA6KGI: . . .

. . . I recently visited Terre Haute, Indiana. I found two meter activity very limited in comparison with the Bay Area. I found some interesting differences however. The repeater WR9AFC, on 146.25, 85 was 15 miles south of town. This machine would never ID on someone, and you could use it with the timer on and never hear a squelch tail while not timing the machine out. The way they did it was by having a tone sound at the reset of the timer, but before squelch drops. It sounded very professional . . .

- WA6KGI

From:
Mt. Diablo Amateur Radio Club, Inc.
P.O. Box 23222
Pleasant Hill, Calif. 94523

Affiliated with the ARRL
Affiliated with the American Red Cross
Member: Amateur Radio News Service

FIRST CLASS MAIL

This month's distribution:

Members	291
Exchanges with other clubs	17
Worthy organizations and firms	12
Visitors at our last meeting	4
Last month's speaker	1
Special requests	3
Copies for our files	2
Extra copies for possible handouts	7
	<hr/> 337
Minus the "one to a family CARRIERS"	12
Total	<hr/> 325

To:

